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A glimpse of the Langlands programme

Sara Arias de Reyna[1]

The Langlands programme consists of a series of conjectures relating arithmetic objects (number fields) to analytic objects (automorphic forms), and it constitutes a central theme in modern number theory.

In this talk we will approach the Langlands programme through the following question: Given a polynomial $f(x)$ with integer coefficients, for which prime numbers p does it split into different linear factors modulo p?

We will review advances on this question, from Gauss reciprocity law to class field theory and its non-abelian generalisations (some already proven, some conjectured), stopping by the proof of Fermat's Last Theorem.

[1]Faculté des Sciences, de la Technologie et de la Communication
Université du Luxembourg
sara_arias@us.es